

***NATIONAL WEATHER SERVICE INSTRUCTION 10-807***

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***Operations and Services***

***Aviation Weather Services, NWSPD 10-8***

***INTERNATIONAL SERVICE AGREEMENTS***

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**NOTICE:** This publication is available at: <http://www.nws.noaa.gov/directives/>.

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9/05/02

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Date

Director, Office of Climate, Water, and Weather Services

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**1. Purpose.** This instruction details procedures for NWS Regional Headquarters (RH), National Centers for Environmental Prediction (NCEP) offices, and Weather Forecast Offices (WFO) in meeting valid international aviation Meteorological Authority (MET) requirements.

**2. Background.** The United States, as a Contracting State in the International Civil Aviation Organization (ICAO), is responsible for providing meteorological service to international flights departing from or bound for airports in the U.S., its territories and possessions, Compact of Free Association countries, or transiting U.S. airspace.

ICAO further requires each Contracting State to designate an authority, hereinafter referred to as the MET. The United States designated the Federal Aviation Administration (FAA) as the MET. The FAA designated NWS as the provider of meteorological services. Those services are provided through the World Area Forecast System (WAFS) in accordance with Annex 3 and the appropriate Regional Air Navigation (RAN) plans.

Key components of the WAFS in the U.S. are:

- a. The Washington World Area Forecast Center (WAFC). WAFC Washington is composed of two NCEP centers: Central Operations at Camp Springs, Maryland and the Aviation Weather Center (AWC) in Kansas City, Missouri;
- b. Four Meteorological Watch Offices (MWO): the AWC; the Alaska Aviation Weather Unit (AAWU) in Anchorage, Alaska; and WFOs in Honolulu, Hawaii and Guam;
- c. One Meteorological Office for Meteorological Services: the AWC;
- d. Two Volcanic Ash Advisory Centers (VAAC): the AAWU which houses the Anchorage VAAC; and the Washington VAAC, containing elements of Central Operations at NCEP and National Environmental Satellite Data and Information Service;

- e. Two Tropical Cyclone Advisory Centers (TCACs): the National Hurricane Center located at NCEP's Tropical Prediction Center (TPC) in Miami, Florida; and the Central Pacific Hurricane Center in Honolulu WFO.

**3. Definition of Unique Terms.** The following terms have unique definitions for international aviation service:

- a. Requirement: a valid need, not necessarily something the U.S. is required to provide. Paragraph 2.1.3 of Annex 3 is applicable.
- b. Provide: used solely in connection with the provision of service, including copies of appropriate forecasts (i.e., flight documentation).
- c. Issue: used solely with cases where the obligation specifically extends to sending out the meteorological information.
- d. Make available: used solely with cases where the obligation ends with making the information accessible in the meteorological office.
- e. Supply: used solely in cases where either c. and d. above applies.
- f. Compact of Free Association countries, which includes the Republic of Palau, Federated States of Micronesia, and Republic of the Marshall Islands located in the northwest Pacific.

**4. General.** The following criteria determines whether flights receive international or domestic documentation:

- a. International documentation.
  - (1) Flights between the Continental U.S. (CONUS) and Hawaii, Alaska, Puerto Rico, U.S. territories and possessions, or Compact of Free Association countries (although formally classified as domestic).
  - (2) Flights from the CONUS which overfly Canada, or are scheduled to make an intermediate stop only in Canada before continuing to a destination outside Canada.
  - (3) Flights which originate or terminate outside the CONUS with intermediate stops in the CONUS, for the route segments outside the CONUS points.
- b. Domestic documentation.
  - (1) Flights between the U.S. and Canada (the AWC will provide the data when requested).

**5. Correspondence with Foreign MET Services.** Correspondence regarding service to international aviation will be conducted according to the following precepts.

- a. The NOAA Administrator normally corresponds with directors of foreign MET services. However, the NWS Director has been delegated authority to correspond directly with foreign MET service directors on operational matters covered by existing policy.
- b. In urgent cases dealing with operational matters covered by existing policy, any of the following individuals or their designees may contact others having comparable functions and status in foreign MET services:
  - (1) The Director, NCEP
  - (2) The Director, TPC
  - (3) The Director, AWC
  - (4) The Director, Pacific Region
  - (5) The Director, Alaska Region
  - (6) The Meteorologists in Charge (MIC) at the AAWU, and Honolulu and Guam WFOs.

Inform the Office of Climate, Water, and Weather Services, NWS Headquarters (NWSH) and RH, as soon as possible, about any such correspondence.

**6. Services Provided.** The recommended procedures for providing meteorological services to international air navigation are contained in five basic ICAO documents.

- a. Annex 3, Meteorological Service for International Air Navigation, prescribes basic meteorological obligations of ICAO Contracting States in serving international air navigation, and presents detailed procedures and guidance desirable for uniform fulfillment of those basic obligations;
- b. Regional Supplementary Procedures, ICAO Doc. 7030, details different operating conditions encountered throughout the world;
- c. Air Navigation Plans include many regional procedures developed at RAN meetings;
- d. Location Indicators, ICAO Doc. 7910, contain indicators for geographical locations throughout the world;

- e. PANS-ICAO Abbreviations and Codes, Doc. 8400 contain abbreviations and codes approved for worldwide use in international aeronautical telecommunication service and aeronautical documents.

Standardized meteorological services are provided by all countries under ICAO to ensure safety of flight and a consistent level of service worldwide. As a contracting state of ICAO, the U.S. agreed to provide flight documentation services to the international aviation community. The AWC provides this documentation at airports certified for international traffic within the U.S., its territories and possessions, and Compact of Free Association countries. Information for international flight folder documentation programs is available via FAX Back service and with document duplication by operational Internet posting on the AWC's web site:

<http://aviationweather.noaa.gov>.

**6.1 Preflight Planning Information and Flight Documentation.** In accordance with Chapter Nine of Annex 3 to the Convention of International Civil Aviation, AWC provides meteorological information to operators and flight crew members for:

- a. Pre-flight planning
- b. In-flight re-planning by operators using centralized operational control of flight operations
- c. Flight crew members before departure

With respect to the route of flight and approximate altitude, flight folder documentation consists of: wind and temperature aloft forecast charts; significant weather (SIGWX) charts (with abbreviated plain language descriptions of forecasts as appropriate); Terminal Aerodrome Forecasts (TAF) for departure, destination and alternate; Significant Meteorological Information (SIGMET) charts of tropical cyclones and/or volcanic ash as appropriate; and for flights of two (2) hours or less, aerodrome (METAR) and special observation reports (SPECI), SIGMETs (for any phenomena), and appropriate special Air Reports (AIREPs). This information will relate to appropriate fixed or periods of times, and will extend to the original destination aerodrome.

Where necessary, the MET of the ICAO state providing service for operators and flight crew members will initiate coordinating action with the METs of other states to obtain reports and/or forecasts required.

**6.1.1 Meteorological Information Format.** The MET, in consultation with the operator, will determine the type and format of meteorological information to be provided, and the methods and means of supplying that information. Usually, meteorological information will be supplied by one or more of the following methods:

- a. Grid point data in digital form
- b. Internet Display

- c. Graphic display in paper form (via fax)
- d. In lieu of a., b., or c., an automated pre-flight information system with self-briefing and flight documentation facilities

**6.1.2 Upper Wind and Upper-Air Temperature Information.** Where upper wind and temperature information is supplied in chart form to flight crew members before departure, the charts will be fixed time prognostic charts for standard isobaric surfaces at the following levels 5,000, 10,000, 18,000, 24,000, 30,000, 34,000, 39,000, 45,000, and 60,000 feet.

**6.1.3 Significant Weather Chart Criteria.** When information on significant en-route weather phenomena is supplied in chart form to flight crew members before departure, the charts will be SIGWX charts valid for a specified fixed time. These charts will depict, as appropriate to the flight:

- a. Thunderstorms
- b. Tropical cyclones issued from TCACs
- c. Moderate or severe turbulence
- d. Moderate or severe icing
- e. Widespread sandstorm/duststorm
- f. For Flight Level (FL) 100 to FL250, clouds associated with a. to e. above
- g. For FL above 250, cumulonimbus cloud associated with a. to e. above
- h. Surface positions, speed and direction of movement of frontal systems when associated with significant en-route weather phenomena
- i. Tropopause heights
- j. Jet streams
- k. Information on volcanic eruptions producing ash cloud significant to aircraft operations (including steam-only eruptions) in the following format:

Volcanic eruption symbol at the location of the volcano and the side of the chart, the name of the volcano, latitude/longitude, date/time of first eruption, if known, and a reminder to users that reference should be made to SIGMETs and Notices to Airmen (NOTAM) or Notice to Airmen for Volcanic Ash issued for the area concerned; and

1. Location of accidental releases of radioactive materials into the atmosphere significant to aircraft operations, with radioactivity symbol at the site accident and at the side of the chart, latitude/longitude of the accident site, date/time of the accident, and a reminder to users to check NOTAMs for the area concerned.
7. **Retention of Weather Documentation Materials.** AWC will retain logs of information provided to airlines and dispatch companies for five (5) years.
8. **Requests for Service.** Requests for service will be sent to the AWC.